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ABSTRACT

This study explains assessments of fair pay for public school administrators in terms of some individual, job-related, and contextual variables, and it tests Jaques' hypothesis that time-span of discretion is the unconscious measure of level of work in bureaucracies. Data were gathered primarily through telephone interviews with superior/subordinate administrative pairs. The conclusion was that Jaques' concept appears to be too narrow to account for the work of public school administrators. Based on the findings, a multidimensional conception of level of work is proposed for public school administration. (Author/TE)

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THE WORK FOR PAY EXCHANGE IN PUBLIC SCHOOL ADMINISTRATION

A Paper Presented at the

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The Work For Pay Exchange in Public School Administration

This study explains assessments of fair pay for public school administrators in terms of some individual, job related and contextual variables and tests Jaques hypothesis that time-span of discretion is the unconscious measure of level of work in bureaucracies. Data were gathered primarily through telephone interviews with superior/subordinate administrative pairs. It was concluded that Jaques concept appears to be too narrow to account for the work of public school administrators. Based on the findings, a multi-dimensional conception of level of work is proposed for public school administration.

THE WORK FOR PAY EXCHANGE IN PUBLIC SCHOOL ADMINISTRATION

INTRODUCTION

Elliott Jaques (1956, 1961, 1976) and Wilfred Brown (1971) contend that time-span of discretion is a universal, but sub-conscious, yardstick that measures level of work in bureaucracies. Time-span of discretion (TSD) is defined by Jaques (1961, p. 99) as:

> "The longest period of time which can elapse in a role before a manager can be sure that his subordinate has not been exercising substandard discretion continuously in balancing the pace and quality of his work."

Jaques and others (Richardson, 1971; Atchinson and French, 1967; and Hansen 1973, 1974 and 1975) have found a close statistical relationship between TSD and and felt-fair pay (FFP) - a stated level of payment that is considered fair by an individual worker for the level of work he has been assigned by his manager, not for himself as an individual. Summarizing these and other findings over a thirty year period, Jaques (1982, p. 66) states "...regardless of their actual pay levels, and regardless of their assumptions or knowledge about the market value of their work in relation to supply and demand, employees who are employed at the same level of work have the same standards of what would be fair payment for that work."

The beauty of Jaques' insight into time-span and level of work is that it is independent of the nature of the work being performed. Therefore, by using this single measure, the work level of elementary principals could be compared to that of secondary principals, which in turn could be compared to

that of central office administrators and all, in turn, could be compared to the work of other professions.

This study was undertaken to determine whether Jaques findings applied to the work of public school administrators and, if not, to explain fair pay assessments for public school administrators in terms of job, individual, and contextual variables.

CONCEPTUALIZATION

It seems useful to view pay as a product of the employment contract. The employment contract has been characterized by Belcher (1974, p 11) as a "double input - output system because the input for one party is the output for the other and vice versa." The exchange involves the giving and receiving of something of value. It is a perceptual process. Each party evaluates the exchange in terms of what it considers to be its own and the other party's contributions and outcomes. As a result of this comparison process, each of the parties derive a feeling about the fairness or equity of the exchange.

In accordance with Adam's (1963 & 1979) formulation, equity is defined in terms of a ratio of an individual's inputs (such as education, level of work, etc.) to outcomes (e.g., pay) as compared with a relevant other. If a person feels the ratio of his outcomes (Op) to inputs (Ip) is equal to the ratio of other's outcomes (Oo) to inputs (Io) he will feel he is being treated equitably. Equity is defined as:

$$\frac{\text{Person's Outcomes (Op)}}{\text{Person's Inputs (Ip)}} = \frac{\text{Other's Outcomes (Oo)}}{\text{Other's Inputs (Io)}}$$

Assuming that equity is a culturally derived norm to which the individual attaches value, it follows that the individual will develop expectancies of fair outcomes based upon his background and experience. In accor-

dance with equity theory, these fair outcome (FOp) perceptions would be derived by the following formula:

$$\text{Person's Fair Outcome } (FOp) = \text{Person's Inputs } (Ip)\left(\frac{\text{Other's Outcomes } (Oo)}{\text{Other's Inputs } (Ip)}\right)$$

A major problem in determining fair outcomes or equity is that inputs and outcomes are as perceived by the parties to the exchange and are not necessarily isomorphic between the parties. As Adams (1979, p. 108) indicates, there are two conceptually distinct characteristics of inputs and outputs, recognition and relevance. Problems of inequity may arise if either party to an exchange fails to recognize the existence of an input or an outcome or if only one of the parties considers an input or outcome relevant to the exchange.

This study assumed that pay was recognized as a relevant outcome by all parties to a public school administrator's employment contract. It further assumed that the distribution of all other outcomes associated with that contract had no bearing on assessments of fair pay. That is, the addition of a benefit was assumed not to influence the fair pay perception. The question became, 'What do the parties recognize as relevant inputs to a public school administrator's employment contract in exchange for pay?'

The procedure for answering this question was to determine what each of the parties to the public school administrator's contract viewed to be fair pay for the work of the public school administrator and then to determine what independent variables were associated with or predictive of that fair pay outcome. The parties to the employment contract were considered to be the administrator, his/her supervisor, and the organization.

Three fair pay assessments comprised the dependent variable: felt-fair pay, the administrator's assessment of what was fair pay for the work that

he did; **appraised-fair pay**, the supervisor's assessment of what was fair pay for the work of the administrator; and **actual pay**, considered to be the organization's assessment of fair pay for the work of the administrator.

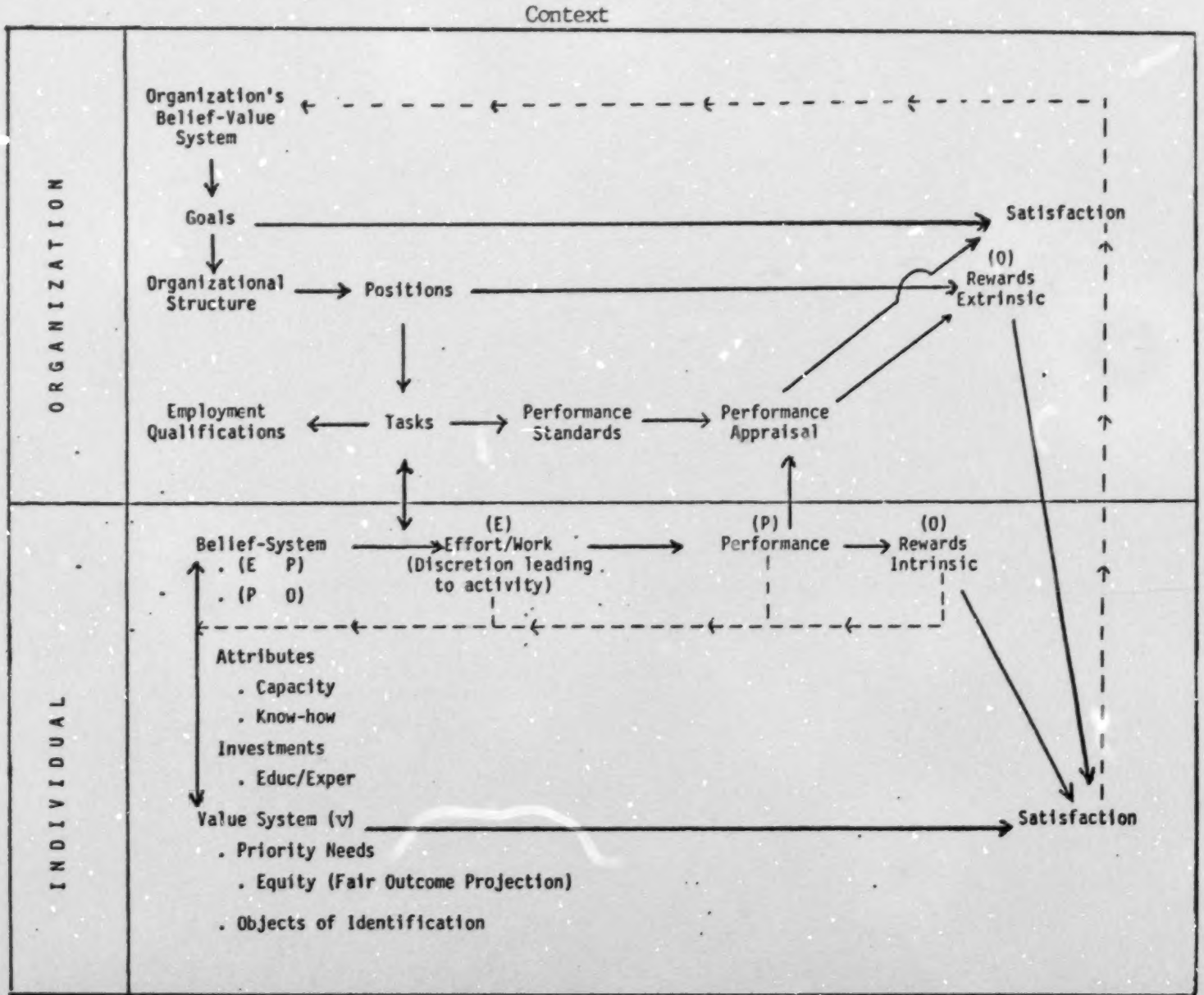
What inputs do the parties recognize as relevant to the public school administrator's work for pay exchange? This study considered three categories of inputs: **individual inputs**, the individual's investments in education and experience to develop his skills and knowledges and other attributes of the individual; **job inputs**, characteristics and requirements of the job and appraised performance of the individual; and **contextual inputs**, characteristics of the organization and socio-economic environment in which the job is embedded. To assist in the further specification of input variables, a model of the employment contract was developed. Definitions used in this model closely parallel those used by Gibson (1966) and Newman and Rowbottom (1968).

THE EMPLOYMENT CONTRACT

The work for pay exchange is seen as a product of the employment contract. The employment contract is an exchange of promises of work for pay linking the need oriented individual to the goal oriented organization. The context in which that exchange takes place influences the exchange. When an individual agrees to occupy a position in an organization, he is agreeing to exchange work appropriate to the tasks attached to the position in return for rewards appropriate to his need satisfaction. In effect when the parties agree to such an exchange a contract is struck.

The relationship between the individual and the organization is presented conceptually in figure 1. The area to the top of the schematic represents the organization and that to the bottom the individual. The individual and the organization are linked by an employment contract represented

Figure 1 - Schematic Répresentation of Employment Contract



by transactions spanning the organization-individual boundary. This contract is entered within the context of a particular organization and socio-economic environment.

The Organization. Organizations are seen as arising when individuals or groups agree to cooperate in recognition of their common interests - goals. At the core of the organization is a system of people in a structure of work roles - organizational structure. This structure, or division of labor, is derived from beliefs held by the organization's governance body and administrative staff about cause and effect relationships vis a vis the organization's goals - belief value system. An individual's location within the structure is said to be a position to which are assigned certain tasks and rewards which are said to constitute a role. Relationships between positions may be described in terms of authority and accountability. Authority is the sanctioned right of an individual to deploy organizational resources at his own discretion in a role. Accountability is the requirement that a role occupant answer for the results of his expected role. The manager/subordinate relationship arises when the occupant of one role is held accountable for the results achieved by an occupant of a subordinate role. The content of a work role is delegated by a manager to a subordinate in the form of work prescriptions - tasks. These tasks include a related set of minimum quality, quantity, time and expenditure standards within which results are to be achieved - performance standards. A task's time-span of discretion is the maximum length of time during which a manager permits his subordinate to exercise independent judgment in the pursuit of a task. Organizations are said to be loosely coupled when task prescriptions are general rather than specific. Managerial level is the location of a position in the hierarchy of of manager/subordinate relationships. Span of control indicates the number of subordinate positions for which a manager is

held accountable both directly and indirectly. A condition of employment is time - the number of days per year and/or hours per day that the employee is expected to be at work. The traits and abilities which the organization believes to be requisite for successful task performance are employment qualifications. A manager's appraisal of the extent to which a subordinate accomplishes prescribed tasks within performance standards is a performance appraisal. Contributions of the organization to the individual for role taking are extrinsic rewards. Organizational satisfaction derives from goal achievement.

The individual. It is assumed that fundamental to an individual is a set of natively and culturally derived needs - desired outcomes. The system of predelections, priorites or preferences concerning needs to be satisfied and the means to those satisfactions is called a value system. Beliefs about cause-effect relationships, personal work capacity and know-how are referred to as a belief system. As the results of the operation of one's belief and value systems, an individual becomes attached to objects, events, norms, etc. to the extent that he/she sees these things as resulting in outcomes satisfying to his value system. Such attachments are referred to as identifications. The strength and direction of an identification is said to be its valence. It follows that an individual will undertake a behavior when he believes that his/her effort will lead to desired performance - results of behavior - and that that performance will lead to desired outcomes - rewards, either intrinsic or extrinsic. In employment situations, work involves the exercise of discretion leading to behavior devoted to the accomplishment of tasks allocated by a supervisor. It is subjectively experienced by an individual as a concern about the adequacy of his decision-making. An individual will enter an employment contract when he/she

believes he has the requisite know-how and work-capacity to cope with the level of discretion and uncertainty required of the role. Know-how is technical knowledge in a field. Work-capacity is ability to conceptualize, analyze, pattern and organize details of a situation over time. To develop know-how and work capacity, an individual expends time, energy and other valued resources on such things as experience and education. These expenditures are considered investments by the individual. As they are associated with performance potential, they are objects of identification for the individual. In addition to investments, such personal attributes as age, height and sex often are thought to be associated with performance potential. An individual's satisfaction with his employment contract will depend upon the extent to which it meets his needs.

The Context. As assumed above, organizations arise when individuals or groups agree to cooperate in recognition of their common interests. The environment of an organization, then, is comprised of cooperating power groups - i.e., groups having some interest in the activities of the organization and some measure of power to affect the organization's activities if it so chooses. Each of these power groups can be thought of as being in an exchange relationship with the organization. In order to survive and promote its goals, an organization must come to terms with the different power groups in its environment. When negotiating anything with any of its power groups, the organization's leadership and the groups being negotiated with, must take into consideration the reactions of all other power groups to the decision situation. Some of the power groups in the environment of public schools are: federal and state governments, local voters, parents and students, professional associations, employees at all levels, employee representatives and unions, loan sources and suppliers of goods and services.

This relationship between the organization and its environment suggests that wage determination is not only a function of the individual and the job, but that it is also a function of the ability and willingness of the organization's power groups to provide resources to the school in exchange for the school's services and achievements. The amount of money available to purchase labor, in various quantities and qualities, will depend upon the good will and ability of the school's power groups.

PREVIOUS RESEARCH

Articles encountered on administrative pay in public schools tended to be normative rather than factual. That is, they specify how compensation systems ought to be constructed, rather than explain how they are constructed. Most recommend procedures involving job evaluation techniques which have been criticized for there lack of clarity and comparability (cf. Frank, 1982).

PAY AND INDIVIDUAL VARIABLES

Education. In the normative literature, education has been cited as an appropriate criterion for paying public school administrators by Castetter (1981), Wessel (1973) and Gilbert (1975). In private sector factual studies by Lawler and Porter (1966) and Agawarl (1981), education has not been found to be significantly related to managerial pay.

Experience. Gilbert (1975) advocated that a principal's salary be based upon his placement on the teacher salary schedule (education and experience). Experience has been found to be significantly related to managerial pay in the private sector by Lawler and Porter (1966), Dreher (1981) and Agawarl (1981).

Age. As age discrimination is prohibited by equal pay laws, age is not and would not be expected to be advocated as a criterion for paying public

school administrators. However, age is known to vary directly with experience and Lawler and Porter (1966) found age to be the second most powerful predictor of actual pay among private sector managers (managerial level was the first).

Sex. For the same reasons as age, sex is not advocated as a criterion for paying public school administrators. Pay satisfaction studies (Dreher, 1981; Sauser and York, 1978) indicate that women tend to display greater pay satisfaction than their male counterparts.

PAY AND JOB VARIABLES

Managerial Level. The American Association of School Administrators and the National Association of School Boards (1981) and Castetter (1981) recommend managerial level as a criterion for developing administrative compensation systems. Lawler and Porter (1966) found management level to be the best predictor of pay for private sector managers. Agarwal (1981) found job complexity (as measured by management level, geographic diversity and span of control) to be a significant set of predictors of pay for life insurance executives; management level was the best predictor among the job complexity set.

Span of Control. A number of normative theories recommend span of control type criteria as appropriate for use in public school administrator compensation plans. Some speak to span of control directly (Castetter, 1981), others speak of size of school or number of students supervised (Todd and Manning, 1974) and yet others (Gilbert, 1975) speak of size of school as number of teachers supervised. As mentioned above, Agawarl (1981) found span of control to be the second strongest predictor within the job complexity set of pay for life insurance executives.

Level of Work. There is no generally agreed upon definition of level

of work or job complexity. Smith (1975) incorporated ratings on five areas of responsibility in a public school administrator pay plan: planning, directing, organizing, staffing and supervising. Todd and Manning (1974) used student turnover rates, special classes and cafeteria responsibility at the Cupertine elementary district. In the private sector, the military and research agencies, time-span of discretion (TSD), as measured by a supervisor, has been found to be predictive of felt-fair pay (FFP) as assessed by the individual worker. Jaques (1970) reports correlations as high as r= .90; Richardson (1971) reported an r = .86 in his study of managers at Honeywell; Atchinson and French (1967) an r = .90 in their study of scientist at a U.S. Navel research center; and Hansen (1973, 1974, and 1975) reported an r = .66 in the Canadian military.

Performance. According to normative theories of public school administration, pay should be related to performance. Wessel (1973) and Smith (1975) report having developed compensation plans incorporating this variable. In a study of management compensation in an oil company, Dreher (1981) found a weak correlation between salary increase and performance ratings (r = .36). He attributed this to the fact that the oil company recognized merit both in frequency and magnitude of pay increases.

Qualifications. Many of the normative theories of school administrator pay suggest that the education and experience requirements for the job are appropriate criteria to use in developing pay plans. No study was found that directly tested this proposition in either the public or private sector.

Time. Length of work year was advocated for consideration in public school administrator pay by Castetter (1981) and was incorporated in a school administrator pay plan by Gilbert (1975). However, no factual study

was found indicating the influence of length of year or day upon administrative pay.

PAY AND CONTEXTUAL VARIABLES

Ability to Pay. None of the normative theories of public school administrator pay has dealt directly with ability to pay. King (1976) found that teacher salaries varied directly with family income of district residents and percent of families not on welfare. Landon and Baird (1971) found value of taxable property and income per capita to be strongly related to teacher salaries. In the private sector, Agawari (1981) found ability to pay as measured by company profits to be the most powerful predictor of executive pay in life insurance companies. An indirect measure of ability to pay is staffing adequacy. King (1976) found that that both the number of teachers per student and the level of teacher pay varied directly. This suggests that, as the funds available to pay for work increases, both the quantity and unit cost of labor increases.

Willingness to Pay. Landon and Baird (1971) found mixed results in the relationship between teacher salaries and willingness to pay as measured by full-value tax rate.

Comparable Salaries. Normative theories typically suggest that administrative compensation plans should be characterized by both internal equity (similar pay for similar jobs and appropriate differentials between levels) and external equity (pay that is competitive and that will retain valued personnel). No study was found that directly tested the impact of comparable salaries upon the pay of administrators in either the public or private sector. However, Dreher (1981), in investigating determinants of salary satisfaction, found that perceptions of external and internal equity are the most important predictors of pay satisfaction for technical employees in an

oil company and external equity is more important to employees having fewer years of service.

HYPOTHESES

Assuming that school systems are bureaucracies having a hierarchy of authority and accountability, it is expected that the discretionary authority of each position will be embedded in the discretionary authority of the managerial position to which it reports. Time-span of discretion (TSD) is the measure of a position's discretionary authority. Hence:

> H1: There is a direct linear relationship between TSD and managerial level.

Confirmation of this hypothesis would add credence to Jaques' and Brown's contention that TSD is a universal measure of level of work in bureaucracies.

Associated research questions are:

> R1: To what extent do public school administrators and their supervisors view administrators' TSD to be the same?
>
> R2: Is there a difference in the strength of the relationship between a supervisor's and an administrator's estimates of TSD in districts using and not using MBO?

Work, according to Jaques (1976), is discretion leading to activity devoted to the accomplishment of tasks allocated by a manager. In allocating tasks to subordinates, managers attempt to match work expectation with work capacity. Work capacity reflects "...individual differences in the capacity for abstract thinking and for organizing complex work on a larger scale for long periods without having to check the correctness of decisions and plans with someone" (Blau, 1983, p. 288). Level of work is subjectively experienced by the individual as a continuing exercise of discretion about what has to be done in the moving present in order to bring the future idea into being and it is accompanied with a burden of concern about the adequacy

of the decision made (Jaques, 1976, p. 105). Individuals "sense" the level of work they are assigned and know if that level is too high or too low. The amount of discretion which a manager grants a subordinate to use is the factor which determines the level of work "sensed" by that subordinate. More specifically, a position's TSD dictates an individual's sense of level of work or size of job. It follows from equity theory that the administrator's statement of felt-fair pay for the work that he does would be directly related to TSD. Hence:

> H2: There is a direct linear relationship between TSD as measured by a supervisor and FFP as perceived by an administrator.

If delegation in school system's is loosely coupled as has been suggested by a number of authors (Bidwell, 1965; Weick, 1976; Firestone and Herriott, 1982; Cohen, et. al., 1972), it might be true that an administrator's sense of size of job would be a function of work that he had assigned himself rather than work assigned to him by a superior. Hence, it would be expected that fair pay perceptions would follow his own estimate of TSD (TSDa). Therefore:

> H3: There is a direct linear relationship between TSD as measured by a school administrator and FFP as perceived by that same administrator.

The following research questions will be addressed to explore the determinants of fair pay assessments for the work of public school administrators.

> R3: To what extent are each of the fair pay assessments a function of individual, job and contextual variables?
>
> R4: Which of the independent variables are most predictive of each of the fair pay assessments?

METHODOLOGY

The population for this study consisted of all public school admin-

istrators in suburban Erie County, New York, exclusive of school superintendents. A random sample of 100 administrators was selected for study. The primary source of data collection was separately conducted patterned telephone interviews with each administrator and his/her administrative supervisor. The interview protocols were adapted from Richardson's (1971) study of fair pay in the Honeywell Corporation. The telephone interviews were followed by mailed questionnaires to collect information which might be considered sensitive such as fair pay assessments and performance appraisals. Complete responses were obtained from 62 administrator/supervisor pairs. For further information about the data collection procedures see McGee (1984, pp. 55-60).

Classification of Variables. Table 1 sets forth medians, means and standard deviations for all the variables studied. For further information on the variables and their measures see McGee (1984, pp. 61-67).

Statistical analyses of the data were conducted using: (1) one-way analysis of variance to test the relationship between TSD and managerial level, (2) Pearson's correlations to test the relationship between the fair pay variables and TSD, (3) Commonality analysis (Mayeske, 1971) to determine the unique variance in each of the fair pay measures accounted for by each of the variable sets and the common variance explained by two or more sets, and (4) step-wise regression to determine the power of individual variables to predict each of the dependent fair pay measures.

TABLE 1 -- MEDIANS, MEANS AND STANDARD DEVIATIONS FOR VARIABLES

Variable	Measure	Units	Median	Mean	Std. Dev.
I. Dependent					
Fair Pay	Actual	$	31,177	32,279	4,756
	FFP	$	35,037	36,285	5,102
	AFP	$	32,900	33,112	4,603
II. Independent					
A. Job					
Managerial level	Level	1-4	2.2	2.3	.85
	Rank	1-9	5.4	5.5	2.1
Required time	Days	days	224	223	7.0
	Hours	hours	46.8	46.8	5.1
Level of work	TSDS	months	12.3	17.1	10.8
	TSDA	months	12.3	18.5	12.2
Span of control	SpanTot	No	39.8	54.8	68.8
	SpanDir	No	26.0	28.6	28.1
Performance	PerfEval	1-7	6.0	5.8	1.1
	AssignEvl	1-7	6.0	5.8	1.2
Qualifications	EducReq	0-7	3.6	3.9	1.1
	TeachReq	yrs	4.8	4.7	2.0
	AdminReq	yrs	2.0	1.9	1.7
Control System	MBOsystem	yes=1	1.7	1.6	.48
	MBOself	yes=1	1.4	1.5	.50

TABLE 1 -- Cont'd.

Variable	Measure	Units	Median	Mean	Std. Dev.
B. Individual					
Education	Educ	0-7	4.8	5.0	1.4
Experience	TeachX	yrs.	9.6	10.4	5.1
	AdmnX	yrs.	12.8	12.9	5.8
	Position	yrs.	8.7	9.8	6.6
Attributes	Age	yrs.	49.0	48.1	7.0
	Height	inches	58.8	59.5	5.7
	Sex	Male=1	1.05	1.09	.298
C. Contextual					
District Wealth	FV/Pupil	$	78,541	80,393	21,498
	Income	$	14,909	15,580	1,906
District Effort	FV/Tax	$	12.80	13.08	2.36
Labor Fund	Staff	N per 1000 stu.	60.0	60.7	4.3
	AvgSal	$	20,476	19,830	4,926
	TopSal	$	25,613	25,463	1,570

FINDINGS

Hypothesis 1 predicted that TSD and managerial level would vary directly. As the two measures of managerial level, level and rank, had a high intercorrelation (r=.81), and as there was a smaller N in each of the nine categories of rank than in the four categories of level, level was the only measure of managerial level used to test this hypothesis. A one-way analysis of variance was employed to test for significant difference in TSD between managerial levels (see Table 2). The results indicated that there were no significant differences in either the manager's estimate of time-span of discretion (TSDs) or the Administrator's own estimate of time-span

of discretion (TSDa) as managerial level changed or increased (F probabilities of .4675 and .3579 were obtained for each measure respectively). Therefore, hypothesis 1 could not be accepted. Time-span of discretion does not tend to increase with managerial level.

TABLE 2: A DESCRIPTION OF TSDs AND TSDa FOR EACH MANAGERIAL LEVEL

LEVEL	N	TSDs MEAN	STD DEV	MIN	MAX
1.5	7	14.6	6.8	6	24
2	33	16.4	8.7	3	36
3	14	16.8	12.3	1	36
4	8	22.6	17.6	7	60

LEVEL	N	TSDa MEAN	STD DEV	MIN	MAX
1.5	7	11.6	6.8	1	24
2	33	19.4	12.2	3	60
3	14	21.0	13.9	6	60
4	8	16.4	12.4	5	36

As the method used to measure level could result in individuals who hold the same titles being assigned to different managerial levels, the data was also inspected in terms of the ranked ordering of administrative titles (see Table 3). Inspection of Table 3 indicates that: (1) Mean TSDs scores for position titles generally associated with district-wide administration are longer than are mean TSDs scores for position titles associated with building administration; (2) Mean TSDs scores for assistant principals tend to be longer than mean TSDs scores for principals. However, lack of large N's for each position prohibited a test for significant differences.

TABLE 3: A DESCRIPTION OF TSDs AND TSDa FOR EACH ADMINISTRATIVE TITLE

Title	N	TSDs Mean	STD.Dev.	Min.	Max.
Ass't Elm Prin	1	12.0	0	12	12
Ass't HS/MS Prin	3	12.6	1.2	12	14
Coordinator	11	16.1	8.9	5	36
Elm Principal	2	9.0	4.2	6	12
Dir/Bus Manager	15	18.0	9.6	7	36
M.S. Principal	13	15.2	9.2	3	36
H.S. Principal	4	10.7	7.0	1	18
Ass't Supt	5	25.0	12.6	5	36
Deputy Supt	8	22.2	17.9	7	60
All	62	17.1	10.8	1	60

Title	N	TSDa Mean	STD.Dev.	Min.	Max.
Ass't Elm Prin	1	12.0	0	12	12
Ass't MS/HS	3	18.6	9.2	8	24
Coordinator	11	17.0	14.5	1	48
Elem Principal	2	12.0	0	12	12
Dir/Bus Manager	15	19.3	7.9	12	36
MS Principal	13	14.5	8.6	6	36
HS Principal	4	30.0	20.7	12	60
Ass't Supt	5	16.8	6.6	12	24
Deputy Supt	8	23.2	18.9	5	60
All	62	18.5	12.2	1	60

Research questions 1 and 2 sought to determine the congruence between supervisors' and administrators' perceptions of the time-span of discretion assigned to the positions of the administrators. No statistical relationship was found between a supervisor's (TSDs) and an administrator's (TSDa) estimate of time-span of discretion ($r=.0047$). Correlations were also run for those administrators who reported that they annually developed management objectives with their supervisors and those reporting that they did not. Again no statistical relationship was found between supervisors' and administrators' estimates of TSD for the administrators' positions. The correlation between TSDa and TSDs for those using MBO was $r=.052$, whereas the correlation for those not reporting using an MBO system was $r= -.035$.

The lack of relationship between TSDs and TSDa suggests that the time-span during which a public school administrator sees himself as having authority to exercise discretion without supervisory review is independent of his manager's perception of that same authority. This finding is consistent with Bidwell's (1965) contention that administrators as well as teachers have considerable autonomy in exercising their responsibilities. This autonomy results in what Bidwell refers to as a "structural looseness" and what more recent writers (Weick, 1976, Firestone and Herriott, 1982) have referred to as "loosely coupled systems".

This lack of relationship between administrators' and supervisors' estimates of TSD for the work of administrators suggested the following question:

> Do public school administrators and their supervisors cite the same content in long-term tasks that they separately identify?

To answer this question the long-term tasks identified by supervisor administrator pairs were inspected to determine the extent to which there was congruence in content of tasks separately identified. The results of that inspection indicated that 44% of the pairs did not have a match in the content of their separately identified long-term tasks. However, as the number of long term tasks identified increased, the likelihood of there being at least one match also increased.

Summary of Findings. The findings were mixed with respect to the question of whether TSD is implicitly used to measure level of work in public school administration. They were:

1. Neither measure of time-span of discretion (TSDs or TSDa) increases with managerial level.

2. Mean TSDs scores for central office administrators tend to be higher than mean TSDs scores for building admin-

istrators.

3. Supervisors' and Administrators' estimates of the administrators' time-span of discretion (TSDs and TSDa, respectively) are independent of one another even when controlling for the use of an MBO System.

4. Supervisors and their administrative subordinates failed to cite the same long term tasks for the administrator in 44% of the cases.

Hypothesis 2 predicted that there would be a direct linear relationship between TSD as measured by a supervisor (TSDs) and an administrator's statement of fair pay for the work that he does (FFP). The hypotheses was accepted as the relationship between TSDs and FFP was significant at the .01 level. However, the strength of the relationship (r = .31) was weaker than those found in other studies testing Jaques' theory of equitable payment. Those studies involved a naval research center, a Fortune 500 company and the Canadian Military (See Table 4 below).

TABLE 4: COMPARISON OF CORRELATIONS FOUND BETWEEN TSDs AND FFP IN TESTS JAQUES' THEORY OF EQUITABLE PAYMENT

Study	Author	Correlation
Naval Research Center	Atchinson & French (1967)	.90
Fortune 500 Company	Richardson (1971)	.86
Canadian Military	Hansen (1973)	.66
Public School Administration	McGee (1984)	.31

The second hypothesis with respect to the work for pay exchange was that there would be a direct linear relationship between time-span of discretion as measured by an administrator (TSDa) and an administrator's statement of

fair pay for the work that he does (FFP). The correlation between TSDa and FFP is r = .026. The hypothesis could not be accepted. It would appear from the data that administrators do not base their assessments of fair pay for the work that they do, upon their own perceptions of the time-span of discretion of their work roles.

Table 5 compares the correlations between each of the fair pay variables and TSDs and TSDa. From inspection it can be seen that only the manager's estimates of time-span of discretion (TSDs) correlates significantly with the fair pay variables.

TABLE 5: COMPARISON OF CORRELATIONS BETWEEN EACH OF THE FAIR PAY VARIABLES AND TSDs AND TSDa

Pay Variable	Manager TSDs	Administrator TSDa
Felt-fair pay (FFP)	.314**	.026
Appraised Fair Pay (AFP)	.265*	.089
Actual pay (ACTUAL)	.265*	.026

** p > .01
* p > .05

Summary of Findings These findings tended to support the Jaques hypothesis that fair pay perceptions are a function of time-span of discretion as measured by a manager (TSDs). The findings were:

1. TSDs and FFP are significantly related at the .01 level, however, the strength of their correlation (r=.31) was much weaker than was found in other types of organizations.

2. Administrators' own estimates of their level of work (TSDs) were not significantly related to FFP or any of the other fair pay measures.

Previously it was found that TSDs did not vary directly with managerial level. Here it was found that administrators do base their fair pay percep-

tions, in part, upon level of work as assigned to them by their supervisor (TSDs). These apparently contradictory findings will be discussed later in the paper.

Research question 3 asked to what extent are each of the fair pay assessments a function of individual, job and contextual variables?' Commonality analysis (Mayeske, 1971) was employed to determine how much of the predictable variance in the fair pay measures could be uniquely apportioned to the set of job, individual, and contextual variables, and how much of it is common to the different combinations of sets under consideration.

Table 6 contains the squared multiple correlations, unique associations and commonality values for each of the dependent variables. The R^2 for the three sets of variables indicates that the twenty-five independent variables accounted for 68% of the variance in Actual Pay, 66% of the variance in FFP and 59% of the variance in AFP. Inspection of the unique portions shows that for each of the dependent variables the set of job variables uniquely accounts for the greatest portion of the explained variance. The individual and contextual sets uniquely account for about the same percentage of variance in FFP and AFP; whereas, the unique contribution of the individual set to actual pay was more than twice that of the contextual set.

Inspection of the second order commonalities in table 6 shows that the largest amounts of predictable variance are shared in common with the set of job (J) variables. For Actual pay, Job (J) shares 9% of the variance with Individual (I) and 7% of the variance with contextual (C). For FFP, Job (J) shares 2% of the variance with Individual (I) and 5% with contextual (C); and for AFP, Job shares 10% with the Individual (I) and 5% with Contextual (C).

Table 6 - SQUARED CORRELATIONS OF JOB(J), INDIVIDUAL (I), AND CONTEXTUAL(C) VARIABLES WITH ACTUAL PAY, FFP AND AFP AS A FUNCTION OF THEIR UNIQUE ASSOCIATION WITH THEIR COMMANALITY COEFFICIENTS

	Actual Pay			Felt-fair Pay			Appraised Fair Pay		
Commanality Coefficients	J	I	C	J	I	C	J	I	C
First Order:									
Unique Job (J)	.33			.39			.31		
Unique Individual (I)		.17			.07			.05	
Unique Context (C)			.03			.08			.06
Second Order:									
Common (JI)	.09	.09		.02	.02		.10	.10	
Common (IC)		.01	.01		.03	.03		0	0
Common (JC)	.07		.07	.05		.05	.05		.05
Third Order:									
Common (JIC)	.02	.02	.02	.02	.02	.02	.02	.02	.02
R^2 for a single set of variables	.49	.25	.09	.48	.14	.18	.48	.17	.13
R^2 for three sets of variables, R^2 (JIC)	.68	.68	.68	.66	.66	.66	.59	.59	.59

These data taken together suggest that the job variable set played the greatest role in determining each of the fair pay variables. They also suggest that the job variable set made a greater unique contribution to FFP than it did to Actual Pay or AFP. The set of individual variables and the set of contextual variables were about equal in weight (after the job set) in predicting FFP and AFP. In contrast, the contribution of the set of individual variables to Actual Pay was more than five times as great as was the independent contribution of the contextual set to Actual Pay. This may suggest that that the individual variables are over-emphasized in establishing Actual Pay.

Research question 4 asked 'Which variables, regardless of set, are most predictive of each of the fair pay assessments?' Variables whose regression coefficients had a significance of less than .10 were allowed to enter a regression analysis for each dependent variable one at a time, freely. Of the twenty-five independent variables only nine had regression coefficients which were significantly related to the fair pay variables at the .10 level or less. As presented in Table 7, these nine variables account for 58.2% of the variance in actual pay, 54.7% of the variance in felt-fair pay and 48.0% of the variance in appraised fair pay. Level was found to be the single variable which accounted for the greatest variance in each of the dependent variables. Two things are note worthy from inspection of this table. First, level accounts for considerably less of the variance in FFP (26.7%) than it does for either actual pay (35.8%) or AFP (34.7%). Second, there are a larger number of significant predictors of FFP (6) than there are for either Actual Pay (4) or AFP (4).

Table 7 - Proportion of Variance in the Fair Pay Variables accounted for by Variables having regression coefficients with a significance (P) of less than .10

Actual Pay			Felt-Fair Pay			Appraised Fair Pay		
Variable	ΔR^2 as %	P =	Variable	ΔR^2 as %	P =	Variable	ΔR^2 as %	P =
Level	35.8%	.000	Level	26.7%	.000	Level	34.7%	.000
Admin. X	10.4%	.002	Educ. Req.	7.4%	.015	Admin. Req.	6.1%	.020
Spantot	7.0%	.006	Spantot	7.2%	.012	Spantot	3.6%	.063
Admin. Req.	5.0%	.014	Top Sal	6.5%	.012	Avg. Sal	3.6%	.058
			Position X	4.1%	.035			
			Days	2.8%	.087			
R^2 for significant variables	58.2%			54.7%			48.0%	
R^2 for all variables	68.1%			65.7%			58.9%	
Difference	9.9%			11.0%			10.9%	
No. variables accounting for difference	21			19			21	

Table 8 presents for each of the independent variables whose regression coefficient was significantly related to the dependent variables, values of the unstandardized regression coefficients, standard errors, Beta Weights, the constant (y-intercept) and the squared multiple correlation for these significantly regressed variables. An examination of these statistics reveals the direction and magnitude of the influence of the independent variables when they are considered together.

In combination with other significant predictors, administrative experience (AdminX) is the best predictor of Actual Pay with a Beta weight of 0.420 followed by total span of control (SpanTot) with a Beta of 0.305, required administrative experience (AdminReq) with a Beta of 0.259 and level with a Beta of 0.220. SpanTot, when combined with the other significant predictors, is the best single predictor of FFP with a Beta weight of 0.392 followed by highest scheduled teacher salary (TopSal), education required (EducReq), level, annual work days (Days) and experience in position (PositionX). Level with a Beta weight of 0.335 is not only the best single predictor but also the best combined predictor of AFP. In order of their Beta weights other significant predictors of AFP include: SpanTot, AdminReq and average teacher salary (AvgSal).

Level and SpanTot were significant predictors of all three fair pay measures. Actual pay and AFP were found to be significantly predicted by AdminReq, whereas, education required (EducReq) was found to be significantly predictive of FFP. Days worked per year (Days) was the only required time variable predictive of any of the dependent pay variables, and it was negatively related to FFP - i.e. the more days a person worked the fewer dollars he required per day as fair pay for the work that he did ceteras paribus. Within the contextual set, only salary variables were found to be significant predictors of any of the fair pay measures and they were only

Table 8 - Regression Coefficients, Standard Errors, Beta Weights, and Y - intercepts of Regression Lines for the three Measures of Fair Pay

Independent Variable	Actual Pay			Felt-fair Pay (FFP)			Appraised Fair Pay (AFP)		
	Regress. Coeff.	Stand. Error	Beta Weight	Regress. Coeff.	Stand. Error	Beta Weight	Regress. Coeff.	Stand. Error	Beta Weight
Job									
Level	1153.23[c]	619.89	0.220	1571.63[b]	702.91	0.268	1780.64[a]	661.72	0.335
Days				-155.62[b]	71.10	-0.226			
Hours									
TSDs									
TSDa									
SpanTot	19.09[a]	6.48	0.305	27.45[a]	7.85	0.392	19.74[b]	7.80	0.311
SpanDir									
Perf Eval									
Assn Eval									
Educ Req				1316.17[a]	446.87	0.288			
Teach Req									
Admin Req	653.22[b]	256.71	0.259				575.39[c]	291.79	0.225
Individual									
Educ.									
TeachX									
AdminX	329.71[a]	73.30	0.420						
PositionX				161.94[b]	74.99	0.211			
Age									
Height									
Sex									
Context									
FV/Pupil									
Income									
FV/Tax									
Staff									
Avg Sal							.18[c]	.09	0.208
Top Sal				.91[a]	.30	0.299			
Constant	23,138.01[a]	1,324.12		35,607.48	16,030		23,062.39[a]	2,285.03	
R^2 (JIC)	.598			.567			.504		

[a] $P < .01$, [b] $P < .05$, [c] $P < .10$

predictive of FFP and AFP, not Actual Pay.

Summary of Findings. The findings with respect to the relative contributions of the variables and variable sets to the dependent variables were:

1. All variables in combination explain a significant amount of the variance in each of the dependent variables - Actual pay, 68%, FFP, 66% and AFP, 59%.

2. The set of job variables uniquely accounts for more of the variance in each of the fair pay measures than does any other set of variables.

3. Level is the single best predictor of each of the dependent variables.

4. Felt fair pay is the only dependent variable with significant predictor variables in each of the sets. Actual pay has no significant predictors from the contextual set and AFP has no significant predictors from the individual set.

5. When placed in combination with other significant predictors, the best predictor of the dependent variables in order of their Beta Weights are:

Actual pay - AdminX, SpanTot, AdminReq and level;

FFP - SpanTot, TopSal, EducReq, level, Days and PositionX; and

AFP - level, SpanTot, AdminReq and AvgSal.

DISCUSSION

WORK IN PUBLIC SCHOOL ADMINISTRATION

Assuming that public school systems are bureaucracies, it was hypothesized that TSDs would vary directly with managerial level. That hypothesis was not confirmed by the findings - neither TSDs nor TSDa increase significantly with managerial level. This would appear to refute Jaques proposition that time-span of discretion is the measure of level of work in bureaucracies. However, other findings of the study caution against that conclusion. They include:

(1) central office administrators uniformly had longer time-spans (TSDs) than did building administrators;

(2) TSDs scores for central office administrators tended to increase with rank while the TSDs scores of building administrators had no relationship to rank;

(3) There is no relationship between supervisors' and administrators' estimates of TSD for the work of administrators;

(4) There was no agreement between supervisors and administrators about the content of the long-term tasks assigned to administrators in 44% of the cases; and

(5) Administrator statements about fair pay for the work that they do were related to supervisor estimates of the administrator's time-span of discretion, but they were not as strongly related as were TSDs and FFP correlations in more technologically oriented settings.

Findings 1, 2, and 5 above support the notion that time-span of discretion is a measure of level of work in public school administration, whereas, findings 3 and 4, like hypothesis 1, tend to refute the notion. How do you reconcile these seemingly contradictory findings?

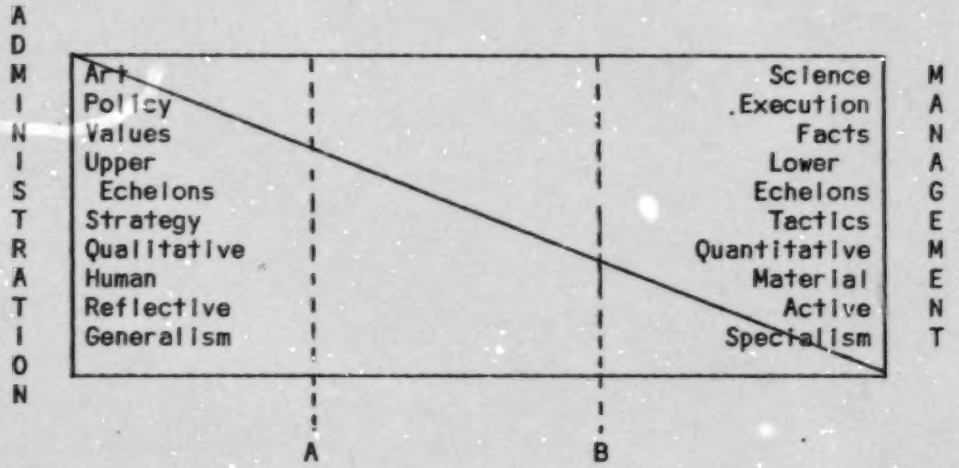
The answer seems to lie in the definition of work itself. Jaques' definition, the definition used in this study, conceives work as decision-making about how to bring about desired ends - i.e., it is means-oriented. Hodgkinson (1978), would refer to that as a definition of 'managerial' work. 'Administrative' work for Hodgkinson is ends-oriented.

> "In general we mean by <u>administration</u> those aspects dealing more with the formulation of purpose, the value-laden issues, and the human component of organizations. By <u>management</u> we mean those aspects which are more routine, definitive, programatic and susceptible to quantitative methods. . . . By and large, administrators in our terms will tend to be located high in the organizational status hierarchy while managers will tend to the middle and lower levels of supervision and responsibility. Loosely, we can consider administration the art of influencing men to accomplish organizational goals while management is the ancillary and subordinate science of specifying and implementing means to accomplish the same ends. Administration is ends-oriented, management is means-oriented. The pure administrator is a philosopher, the pure manager is a technologist. But there is no

approximation of purity at either end of the spectrum in the fact or practice of administration or management." (Hodgkinson, 1978, p.7)

The work of public school administrators, then, might be more properly conceived of as running along a conceptual continuum ranging from ends-oriented administration to means-oriented management. Figure 2 illustrates such a continuum utilizing terms employed by Hodgkinson (Ibid. p. 4).

FIGURE 2 -- THE ADMINISTRATION-MANAGEMENT CONTINUUM



A position's location along that continuum would depend upon the mix of administrative and management duties. Position "A" in Figure 2 would have a relatively high portion of ends-oriented work, whereas position "B" would have a relatively low portion of administrative work and high portion of management work. The difference in strength of correlation between FFP and TSDs in this study (r=.31) and those reported in previous studies at a naval research center (r=.90), Honeywell Corp. (r=.86), and the Canadian Military (r=.66) may well reflect the mix of administrative-management work between these various settings. The work of public school administrators being represented more closely by position "A" and that of the more technical fields by position "B". This is consistent with Hodgkinson's speculation

that the organizational setting is important in determining the mix of administrative-management work.

> "Thus, one would expect a departmental sub-unit of a large bureaucracy with a clearly specified mission and well comprehended and task adequate technology to be more 'managerial' and an educational institution with broadly defined goals and imprecise methodologies to be more 'administrative'." (ibid, p 7)

The importance of setting may also account for the findings that central office administrators tend to have longer time-spans of discretion in their managers' estimations than do building administrators and that TSDs tends to increase with rank in central office positions, but is unrelated to rank among building administrators. Central office administrators essentially serve as staff to school superintendents who stand at the apex of organizational pyramids responsible for multi-million dollar enterprise charged with the moral and technical socialization of youth. It is essentially through school superintendents that purposes are set and goals defined. Although influential in these administrative acts, the central office staff has as their central purpose 'management'. These positions are typically responsible for procuring resources, negotiating contracts, complying with mandates and developing programs for the purpose of accomplishing the desired ends within quantity, quality, timeliness and cost standards.

The findings that building administrators typically had shorter time-spans than did central office administrators could be interpreted to mean that the 'managerial' work of building administrators is more constrained than that of central office administrators.

Why are the time-spans of assistant principals equal to or longer than the time-spans of building principals? Obviously, there could be any number of reasons, including the possibility that with a larger sample they would

not be found to be at the same stratum. An answer that was suggested from comments during the interview process is that in some cases assistant principals receive some long-term assignments directly from the Superintendent of Schools. In these instances, the Assistant Principals tended to be working on projects that had district-wide implications. It could also mean that principals delegate their longer term 'managerial' work to their assistant principals while retaining responsibility for 'administrative' tasks - the development of staff commitment to goals and procedures. These interpretations are not incompatible; they are empirical questions for another study.

Bidwell's logic (1965) supports the contention that the work of the building principal has a high mix of 'administrative' work. Bidwell argues that the diversity of educational goals and the difficulty of their measurement, the lack of a widely accepted work technology, and the variability in student abilities and accomplishments promotes using the norm of professionalism as a means of integrating the school's division of labor. The work of the principal under such a system of integration becomes not one of delegating tasks, but one of inspiring and developing commitment to goals and methods of procedure. According to Hodgkinson's formulation, inspiring and developing commitment is "administrative", not "managerial" work. The finding of a low correlation between supervisors' and administrators' estimates of the time-span of the administrators' jobs and the finding of low congruence between administrators' and supervisors' statements about the contents of long-term tasks, suggest that long-term tasks lack importance in public school administration. They also support the notion that schools are loosely coupled systems requiring considerable autonomy on the part of principals.

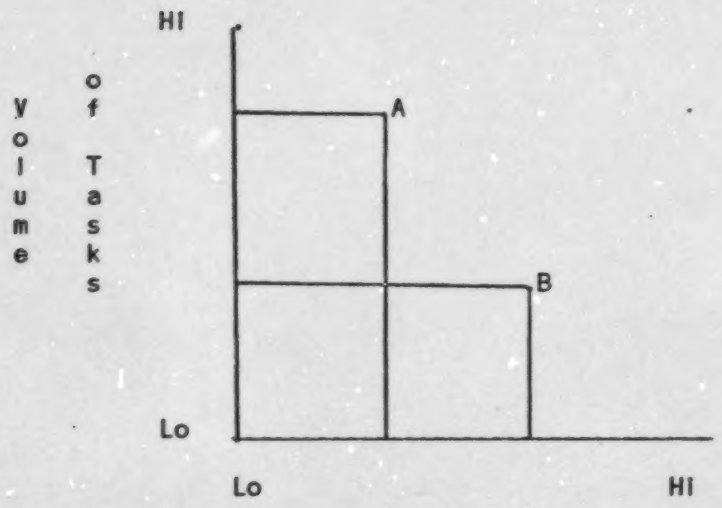
On the other hand, a reading of Martin and Willower's (1981) study of the high school principalship applying the structured observation technique of Mintzberg (1973) leaves one in doubt about the extent to which High school principals are engaged in 'administrative' work. Martin and Willower found the principal to be an extremely busy person, maintaining a "hectic pace". "The high volume of tasks and the rapid rate of their performance caused the principal to change activities every three to four minutes." (p 83) They put in long hours and have little free or private time relative to other members of the school. Their work is characterized by variety, brevity and fragmentation. Much time is consumed with the preferred non-written modes of communication, face-to-face scheduled and unscheduled meetings and informal contacts. Contacts with teachers tended to be informal consultations rather than formal evaluations and teachers were deferred to in day-to-day technical matters. Principals appeared to prefer brevity and interruptions in their work.

> "All principals demonstrated a tendency to engage themselves in the most current and pressing situations. They invested little time in reflective planning and displayed an affinity for the action components of their roles. Priority usually went to tasks that required immediate action or that could be done quickly. . . . principals adhered to planned routines only as livelier issues failed to materialize. (ibid. p 80)

Martin and Willower's description of the high volume of tasks performed by the high school principal and the rapid rate of their performance, conjures a continuum in addition to time-span upon which the managerial work of public school administrators might be conceived. It may well be that the number of tasks an administrator is responsible for at any one time in addition to the time-span of the longest task comprise the measures of 'managerial' work. Therefore, the magnitude of the management component of administrative-management work might be conceived as the area that a posi-

tion covers on two intersecting continua - one representing the administrator's time-span of discretion, the second the volume of short-term tasks assigned to him during any given time period. The relationship between these two continua is illustrated in Figure 3.

FIGURE 3 -- A CONCEPTION OF THE MANAGEMENT WORK OF PUBLIC SCHOOL ADMINISTRATORS



The management work of the position represented by "A" in Figure 3 would be described as having a relatively high volume of tasks which need to be accomplished concurrently within any given time frame and as having a relatively short time-span in which discretion can be exercised without supervisory review. Martin and Willower's principals when combined with the building administrators in this study appear to be represented by position "A". On the other hand, the management work of position "B" in Figure 3 would be described as having relatively few short-term tasks to achieve concurrently and as having a longer period in which discretion can be exer-

cised without supervisory review.

The magnitude of the administrative component of administrative-management work might also be conceived as the area covered on two intersecting continua. The definition of these continua are derived from Hodgkinson's definition of administration - i.e., the process of formulating purposes and the art of influencing people. The number of people influenced, or span of control, is obviously one dimension of administrative work. The second dimension has to do with the resolution of value issues.

How is one expected to validate, justify, determine, rank-order given concepts of the desirable in his job? Hodgkinson (1978, pp. 110 - 114) suggests a hierarchy of four grounds for resolving value issues each yielding a particular type of value. They are from lowest to highest:

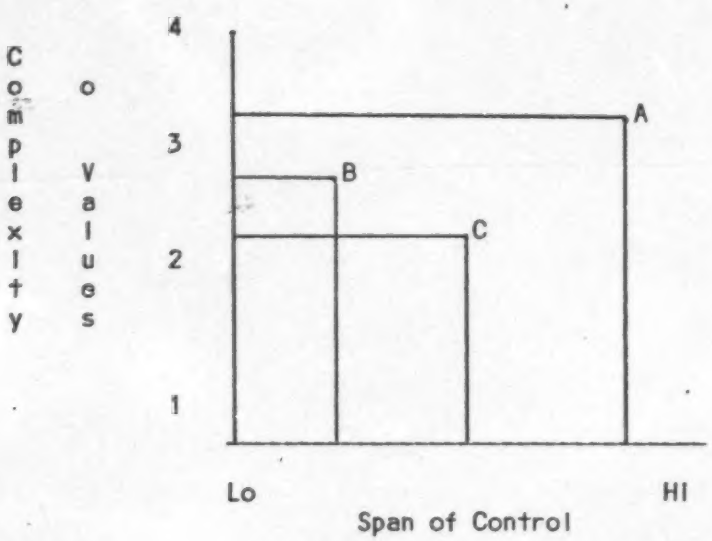
1. Imposition of one's preference structure. This is the least difficult ground for resolving value conflicts.
2. Consensus is the second ground for resolving value issues. It essentially reflects the the will of a majority in any given collectivity.
3. Analysis of what the consequences of an action are likely to be is the third ground for resolving value conflicts. The desirability of the consequence may be arrived at through any of the other grounds.
4. Principle is the fourth ground for resolving value issues. Examples of systems of principle include religion, patriotism or a particular ideology.

It can be concluded from Hodgkinson's model of the value concept that to the extent that an administrator is expected to resolve value issues on the grounds of principle or analysis of consequences, and be authentic to a system of values, and to engage and resolve value issues in his sphere of action; the administrator's job would be considered to be complex on the value dimension. On the other hand, if the administrator were only required

to act in accordance with the collective will of his constituents or in a manner fitting to his own indulgence, his job would be considered to be simple on the value dimension. The magnitude of 'administrative' work then is a function of the complexity of value issues confronted and the span of control of the administrator.

Figure 4 illustrates the relative magnitude of "administrative work" component for three hypothetical public school administrative positions. It assumes that value complexity varies directly with managerial level. Position "A" might represent a Superintendent of Schools who is expected to develop and preserve the philosophic principles upon which the school system is to operate. His broad span of control in combination with the high complexity of value issues confronted yield the largest magnitude of "administrative" work. Position "B" might represent a central office position in pupil services. The incumbent is expected to consult with the Superintendent on philosophic principles, to translate those principles into program and to resolve day-to-day problems arising within a rather narrow span of control. His rather narrow span of control in combination with the relatively high complexity of value issues results in a mid-level magnitude of administrative work. Position "C" might represent a building principal. The value issues arising therein tend to be relatively high and the span of control tends to be rather broad yielding a mid to high level of "administrative" work.

FIGURE 4 -- A CONCEPTION OF THE ADMINISTRATIVE WORK OF PUBLIC SCHOOL ADMINISTRATORS



CONCLUSIONS ABOUT WORK IN PUBLIC SCHOOL ADMINISTRATION

Jaques definition of level of work as the time-span in which an administrator is allowed to exercise discretion without supervisory review appears to be to narrow to incorporate what public school administrators experience as size of job or level of work. That is not to say that time-span of discretion has no place in the definition of the work of public school administrators. But, rather, it is to say that as a unitary concept it lacks power.

A second conclusion about work in public school administration is that its long-term managerial task component appears to be loosely coupled. Short-term tasks, such as attendance procedures, student discipline, and scheduling, may well be tightly coupled.

REFORMULATION OF WORK AND THE WORK FOR PAY EXCHANGE

A reformulation of the concept of work is proposed which may prove useful in the study of the work for pay exchange in public school administration. Let terms be defined as follows:

Administrative work is the process of formulating organizational ends and the art of influencing people to accept those ends.

Management work is the process of specifying and implementing means for accomplishing organizational ends.

Value complexity refers to the grounds upon which an administrator resolves value conflicts. These may range from ideographic preference structures to consensus, to rational analysis to nomothic principles.

Span of Control is the number of personnel reporting directly and indirectly to a position.

Time-span of Discretion is the length of time in which an administrator is allowed to exercise discretion without supervisory review in bringing about ends prescribed by his supervisor.

Volume of tasks is the number of tasks which an administrator is accountable for performing during any given time period.

Level of administrative work is an administrator's sense of the size of his responsibility for formulating ends and influencing people.

Level of management work is an administrator's sense of size of responsibility for specifying and implementing means for accomplishing organizational ends.

Then, let it be assumed that:

1. Value complexity increases with managerial level.

2. Level of administrative work is a function of value complexity and span of control.

3. Level of management work is a function of time-span of discretion and volume of tasks.

4. Teachers are a relevant other in an administrator's assessment of fair pay for the work that he does.

Then, based upon these definitions and assumptions the following propositions and supportive study data are offered:

Proposition 1: Public school administrator pay is primarily a function of level of administrative work and therefore will be explained best by a position's managerial level and span of control.

Findings. Level, is the best single predictor of each of the fair pay measures. The Beta weight of SpanTot (total direct and indirect span of control) indicates that it is the most powerful predictor of Felt-fair Pay and the second (to Level) most powerful predictor of Appraised-fair Pay and the second (to AdminX) most powerful predictor of Actual Pay.

Conclusions. The findings are supportive of Proposition 1. Managerial level and span of control are significant predictors of each of the fair pay measures.

Proposition #2. Public school administrator fair pay is also a function of level of "management" work and therefore will vary directly with time span of discretion and volume of tasks.

Findings. Supervisors' estimates of administrators' time-spans of discretion (TSDs) were significantly related to each of the fair pay measures. However, TSDs was not a significant predictor of any of the fair pay variables when regressed with all the variables. No measure of volume of tasks was incorporated into the present study.

Conclusions. To the extent tested the proposition is weakly supported. In order to test the proposition more thoroughly, volume of tasks for which a position is accountable needs to be taken into consideration in addition to time-span of discretion.

Proposition #3. Teacher pay is an important referent in the determination of fair pay for public school administrators.

Findings. Of all the contextual variables, only the teacher salary variables were significantly predictive of any of the fair pay variables. Topsal was predictive of felt-fair pay and AvgSal was predictive of appraised-fair pay. Actual pay was not significantly influenced by teacher salary variables.

Conclusions. The findings tend to support Proposition 3. Administrator perceptions of fair pay (both from the perspective of the supervisor and administrator) are significantly colored by levels of teacher compensation. The proposition is not supported in the case of actual pay.

RECOMMENDATIONS FOR FURTHER RESEARCH

Several specific recommendations for further research along the lines of this study present themselves.

1. The propositions and assumptions set forth in the reformulation of this study should be tested on a new sample. There is particular need to define, identify and measure (a) the complexity of values which administrators are expected to resolve and (b) the volume of tasks they are expected to perform.

2. Between 59 and 68 percent of the variance in the fair pay measures was explained, leaving 32 to 41 percent of the variance unexplained. Future studies should search for additional variables which add to the predictability of fair pay perceptions. Referent theory (Goodman, 1977) may prove to be a fertile ground.

3. The present study deals only with salary levels. The entire issue of determinants of salary change needs to be addressed.

4. Administrative pay satisfaction (the ratio of FFP to Actual Pay) is another subject where study would be useful. Tentatively, it is expected that the sources of pay dissatisfaction would be associated with the variables 'overemphasized' in the actual pay contract - i.e., total administrative experience - and those 'underemphasized' in the felt-fair pay assessment - i.e., teacher salaries, education required to apply for position and experience in position (not total administrative experience).

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